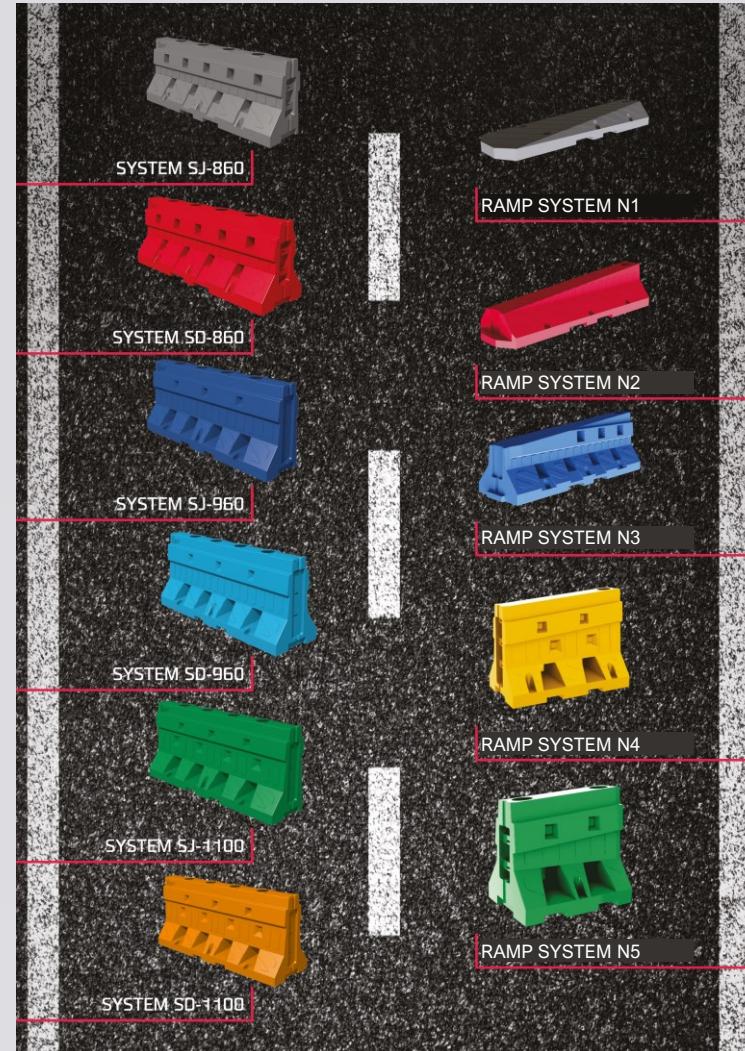




FIEDOR
GROUP COMPANY

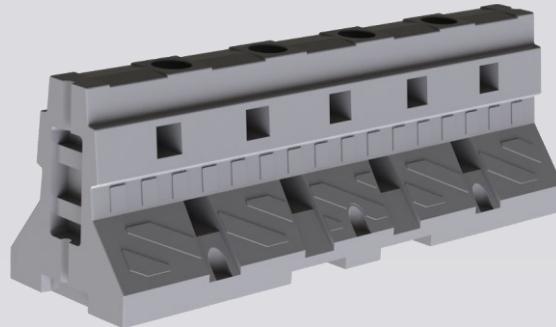
INSTALLATION MANUAL
TSB SOFIBOX ROAD BARRIERS

Protective barrier is a road safety device used to physically prevent a vehicle from rolling off the road in places where it is dangerous, crossing the road prism, driving onto a lane intended for the opposite direction of traffic or colliding with objects or fixed obstacles located near the roadway.



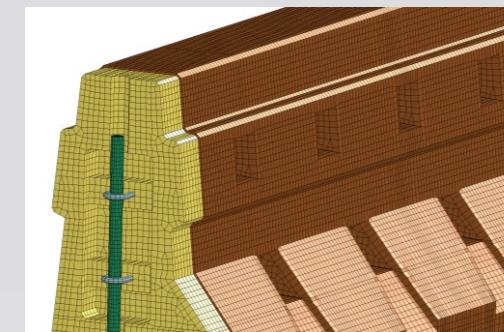


TSB SofiBox Barrier



is a polygonal solid, which in cross-section is a truncated and tapered upwards two-stage cone supported on a rectangular base. In the face and rear plane, it has vertical pits parallel to the vertical axis.

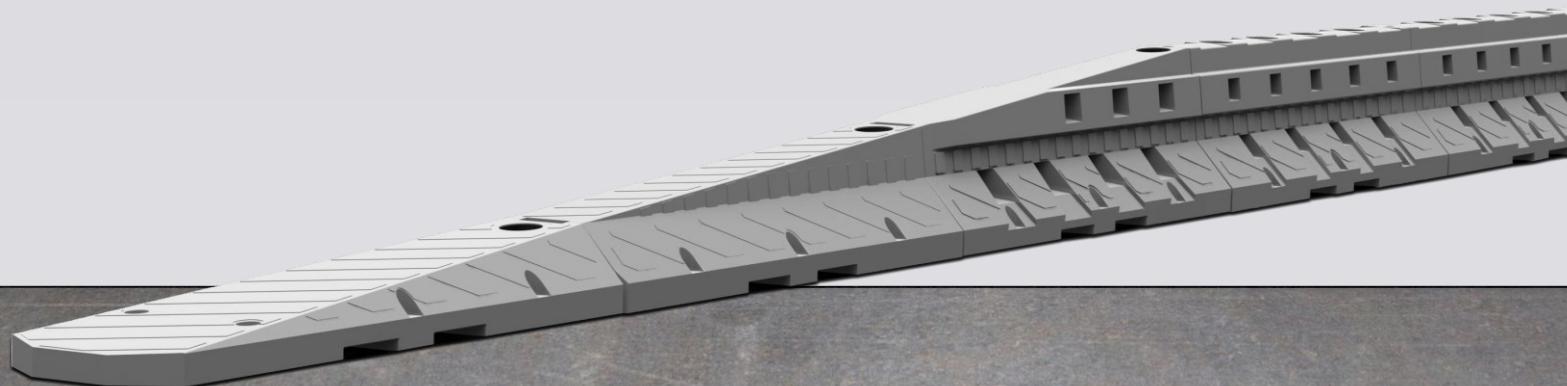
Horizontally mounted connecting handles, which constitute reinforcement anchored in the element, protrude from these pits. Loops located at different heights overlap to form a vertical through hole into which a steel pin is inserted with a diameter of 28-32 suitably selected to the type of system.





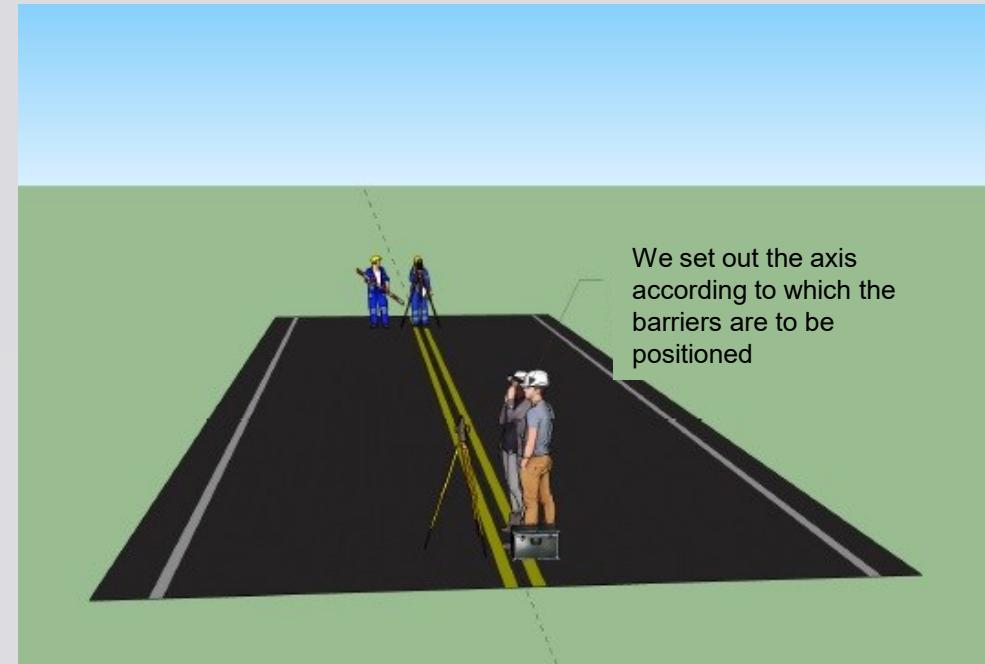
TYPES OF SYSTEMS

- **System SJ-860** minimum section length 60m, barrier length 2.4m./h-860 /mounting pins BS-860.
- **System SD-860** minimum section length 60m, barrier length 2.4m./h-860 /mounting pins BS-860.
- **System SJ-960** minimum section length 58m. barrier length 2.4m/h-960/ mounting pins BS-1100.
- **System SD-960** minimum section length 60m. barrier length 2.4m/h-960/ mounting pins BS-1100.
- **System SJ-1100** minimum section length 60m. barrier length 2.4m/h-1100/ mounting pins BS-1250.
- **System SD-1100** minimum section length 60m. barrier length 2.4m/h-1100/ mounting pins BS-1250.
- **System Connect** minimum section length 5.10m. barrier length 2.4m/h-810/ mounting pins BS-1250
- **System Corner** minimum section length 1.40m. barrier length 0.6m/h-810/ mounting pins BS-860, BS-1100
- **Ramp system N1,N2,N3,N4,N5,C1,L1,L2** minimum section length 2.7m/mounting pins BS-4,BS-5,BS-6



INSTALLATION

A road barrier should be placed on the existing road surface or on the ground surface prepared in accordance with the requirements specified in the Engineering Documentation.





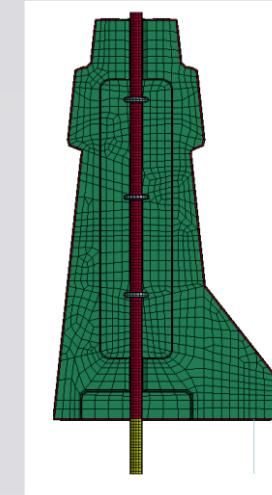
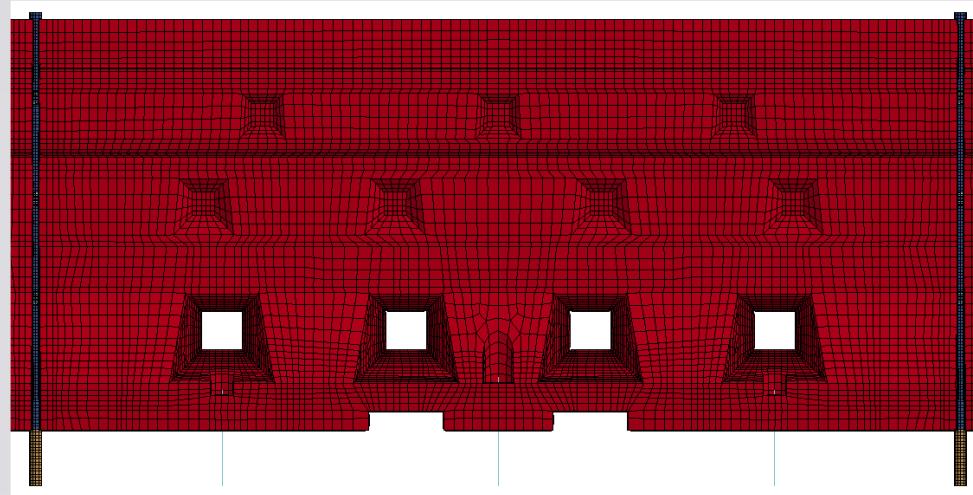
Barrier elements have specific mounting holes located in the barrier wall which enable their unloading and transport with a forklift truck. Barriers can also be moved manually.

When setting barriers on highways, expressways etc. it is necessary to follow the technical specification, Guidelines for the Use of Safety Barriers or the applicable Journal of Laws.





Adjacent sections of supplied barriers should be connected in a secure manner by inserting mounting studs in the form of steel pins into steel loops which are located at different heights and overlap to form a vertical through hole into which the pin is inserted.



In case of permanently installed barriers, longer pins are used and anchored in the ground to a depth of approx. 0.5m or 0.15m, depending on the system used. In case of H2W1 system, elements are additionally anchored to the ground with M24 anchors using a washer with an outer diameter of 56 mm and inner diameter of 31 mm to a depth of 0.15m.



Pin type	Height H	Weight
BS-1250	1250 mm	7,8 kg ± 5%
BS-6 N1/N2	500 mm	3,1 kg ± 5%
BS-6 N2/N3	750 mm	4,7 kg ± 5%
BS-6 N3/N4	1000 mm	6,3 kg ± 5%
BS-6 N4/N5	1100 mm	6,9 kg ± 5%
BS-6 N5/1100	1250 mm	7,8 kg ± 5%



After the pin is installed in steel loops an opening is formed between the connected elements of the barrier.

In case of permanently installed barriers, this opening is plugged with mounting foam and cement mortar.

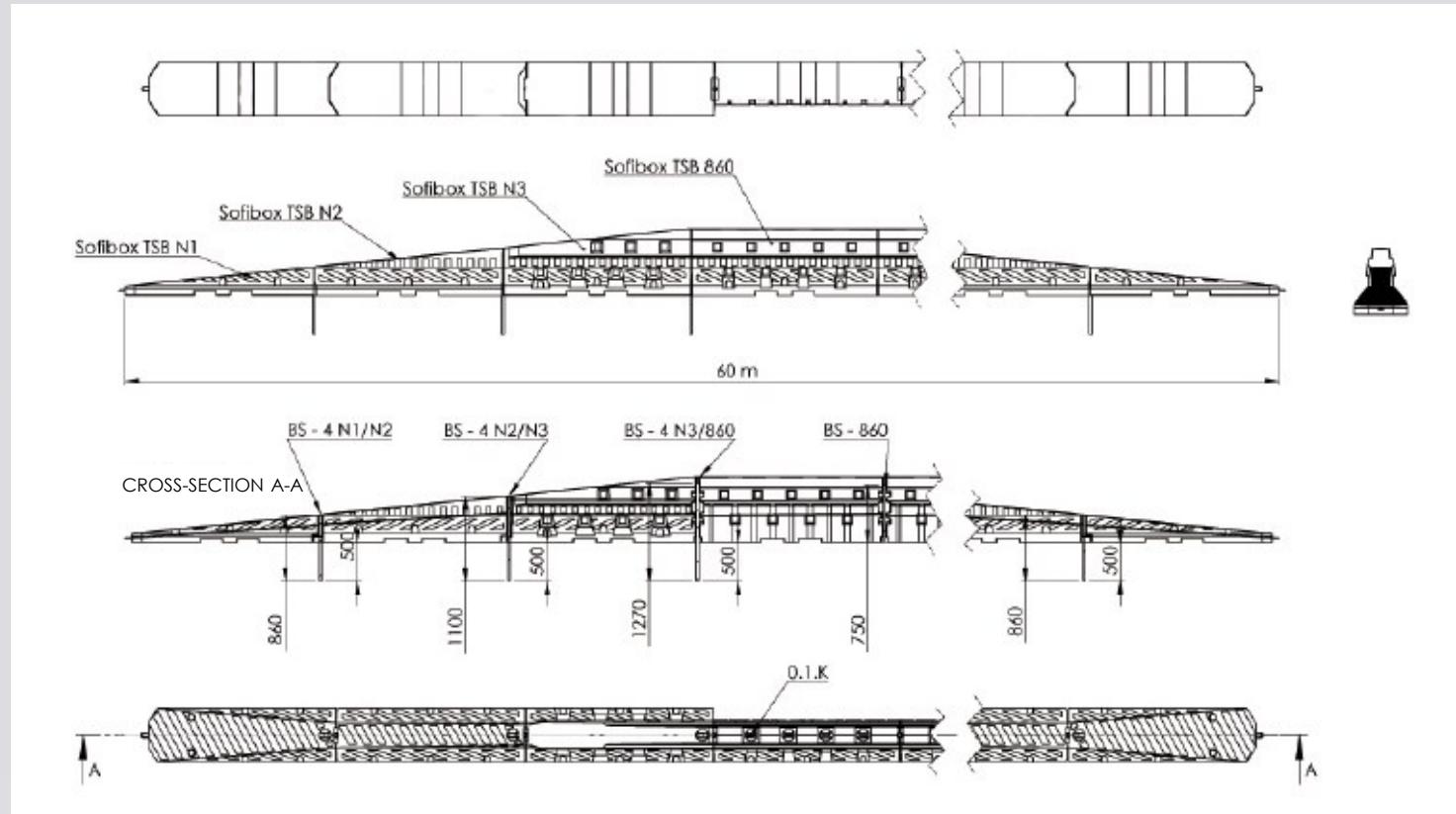
The side surface of the barrier must be free from significant roughness.

During installation, remember to keep a fixed height of barrier crown above the pavement surface.



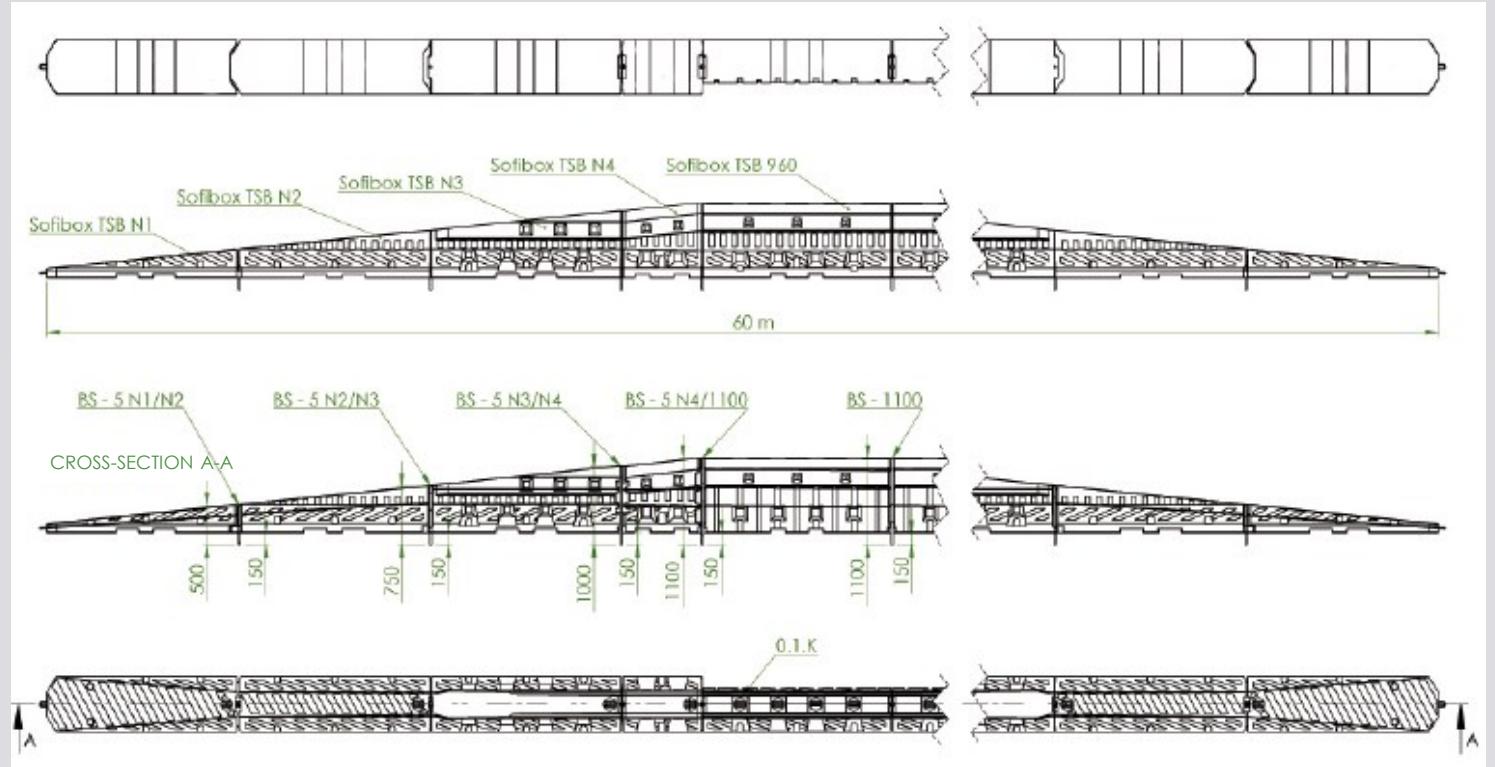
System 860

Initial and final ramp sections of TSB-N barriers, selected according to the Documentation, are installed in the same way by means of pins arranged in steel loops. Ramp sections are always permanently anchored to the ground with BS-4 pins to a depth of 0.50m, and with BS-5 and BS-6 pins to a depth of 0.15m.



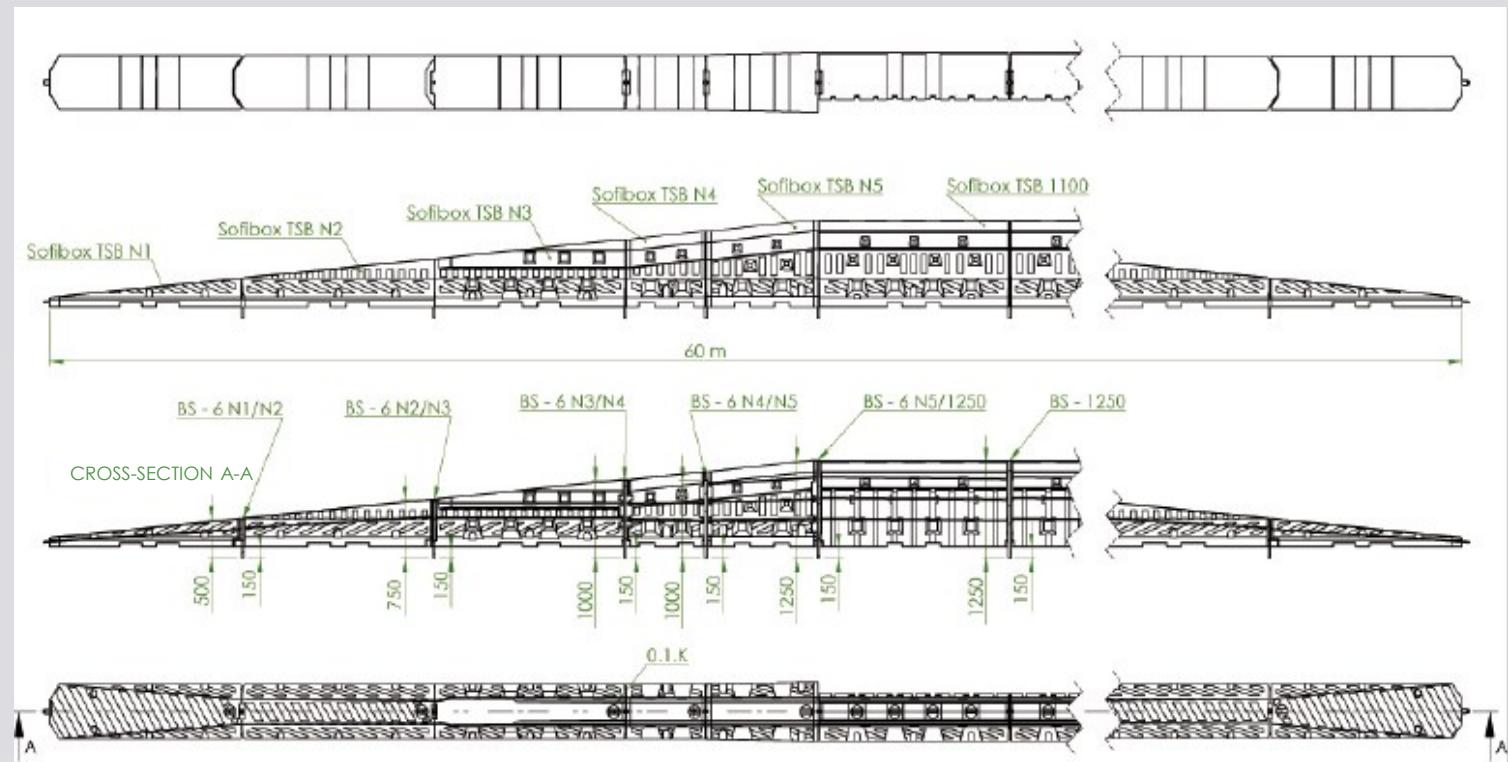
System 960

Our barriers can be set directly on concrete or asphalt surfaces and are tested for this possibility in accordance with the PN EN 1317 standard.



System 1100

The barrier is set on a concrete foundation or on an existing paved ground surface
- covered by roadway or median strip.



After installation of barriers together with the ramps, all elements should be filled with concrete of MINIMUM class C20/25 (in case of H2W1 system, C35/45 concrete should be applied through the holes prepared for this purpose in the upper part of the barrier and void spaces should be sealed with expanding polyurethane foam.





Holes after the filling process
should be plugged with covers
supplied by the manufacturer.





Sofi-Connect connection to steel barrier with type B guide rail





When connecting sofibox systems to a steel barrier, the following elements should be used: n1(c1), n2(base), n3(l1) and, depending on the height of the sofibox system to be connected, n4 and n5 (r-right or l-left)

The principle of connecting and anchoring sofibox segments remains unchanged.

Type B guide rails of steel barrier should be connected to n2(base) element in a specially shaped place.

A guide rail should be fastened to the n2 element before the barrier is filled with concrete. Rounded head bolts with sufficient strength should be used for this purpose.

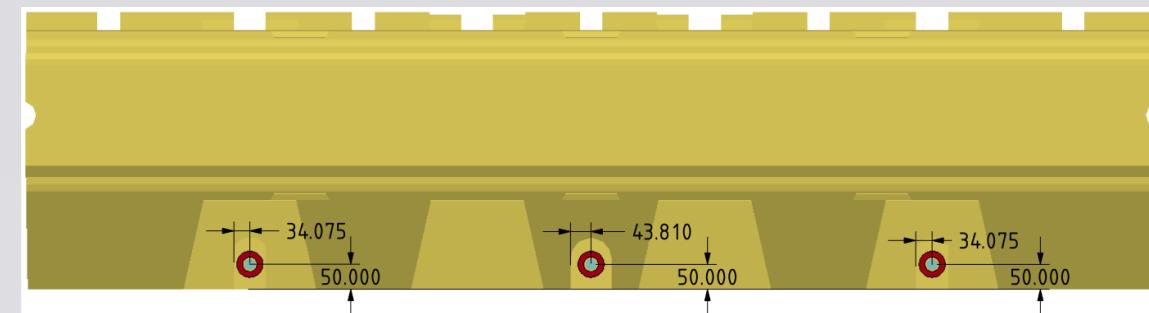
Bolts should be inserted with the head from the barrier face and fastened with a self-locking nut at the back of the barrier where a steel flat bar should be used to avoid deformation of the barrier during assembly.

Bolt should be screwed-in until the head and nut come into contact with barrier wall (**do not allow the barrier wall to deflect during assembly**).

The 'base' element is additionally anchored to the ground

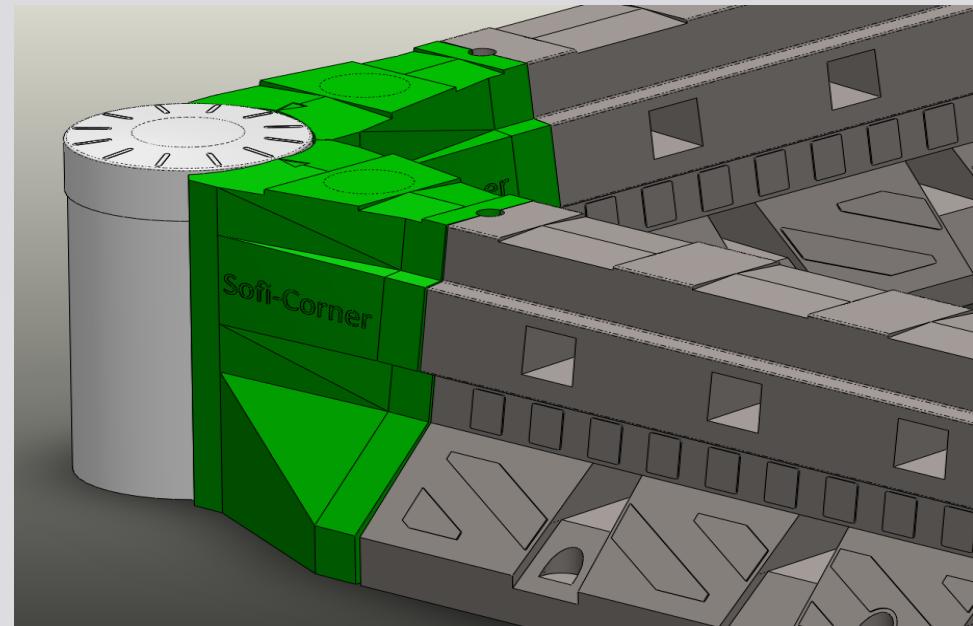
with M24 anchor using a washer with an outer diameter of 56 mm

and inner diameter of 31 mm.





Sofi-Corner, as the name implies, is a corner that allows the angular connection of two barrier systems so that the area secured by barrier sections can be fenced off in a functional and aesthetic manner. It is made of the same durable material as the barriers themselves (polyethylene), and its design allows for quick and easy installation and later disassembly (if necessary). After installation, corner wings are filled with concrete, just like barriers, while the connecting pin is backfilled with sand. The connection requires no special tools or heavy equipment. It uses steel loops and a pin, similar to the way barriers are joined.





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